further, are method claims, while claims 1-10 are apparatus claims. Therefore, it is a confusing statement for which clarification is requested.

To the extent that paragraph 3 is directed to the allowability of rewritten claims 2-10 (rather than to claims 2-21), claims 2 and 3 have been amended to be made independent by incorporating claim 1 therein. Allowance of these claims and their dependent claims 4-10 is consequently submitted to be in order.

Claim 1 was rejected under 35 U.S.C. §103(a) as unpatentable over Chouinard et al. in view of Moore et al. It is respectfully submitted that it is not obvious to combine these references so as to reject claim 1.

The Chouinard et al. patent discloses in FIGS. 1, 2A and 2B ends of optical fibers 38A and 38B respectively held within mounting clip structures 58A and 58B. Each structure 58A and 58B has upper and lower mounting elements 60 and 62 which are provided with mating truncated V-shaped grooves 64. Grooves 64 hold their optical fiber ends in position to locate their respective fiber end faces 40 respectively adjacent to polished end facets 54A and 54B of waveguide structure 12 at predetermined clearance distances 66. Abutment of edge 67E of each lower element with facets 54A, for example, establishes clearance distances 66 and prevents contact of face 40 of the exposed length of fibers 38a and 38B from contacting against respective facets 54A and 54B of waveguide structure 12 and avoids the imposition of stress on the waveguide structure which c0ould damage optically polished facets 54A and 54B. Elements 60 and 62 are cemented together at 63 and 67 to hold the assembly as desired.

FIG. 2C of Chouniard et al. discloses a strain relief arrangement for optic fiber 38A as it passes through an end panel 34A of a housing 16, including the use of a support tube 41, a fiber optic jacket 36 and an epoxy cement 42T. The reason for this

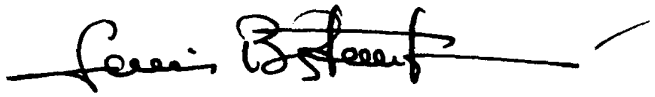
arrangement, as discussed in lines 52-54 of column 7, is to provide a "relatively long length of the fiber between the end panel 34A and the waveguide structure 12 [and] accommodates lateral movements by fiber flexure."

Moore et al. utilizes a sealing element 25 to bond an optical fiber 14 to its sleeve 16 at its planar end 22. The optical fiber terminates in a tip 24, which is housed with a package 10. The sleeve is secured to the package by a ferrule 12. As stated in lines 64-67 of column 1, this arrangement is used so "that tip 24 of fiber 14 is precisely placed in position proximate a sensing device for purposes of transmitting and receiving signals along fiber 14." If Moore et al. were to be used in Chouinard et al., the Moore et al. sealing element 25 would replace the Chouinard et al. strain relief of optic fiber 38A passing through end panel 34A of housing 16. Fiber tip 24 of Moore et al. would be left as free as fiber end face of Chouinard et al., and neither would be relevant to the present invention.

In the present invention, as claimed in claim 1, the structure is completely different from either that disclosed in Chouinard et al. and Moore et al. Claim 1 states: "a sleeve having a symmetrically-shaped cavity bounded by termini which respectively interface with the chip and the fiber; and an adhesive disposed within the cavity and symmetrically bonding the fiber to the chip." As is evident from the references as described above, neither discloses such a claim 1 fiber to chip bonding. Rather, each, in its different way, teaches a fiber held in bonded together upper and lower mounting elements 60 and 62 (Chouinard et al.) and an optical fiber 14 bonded to its sleeve 16 (Moore et al.). Claim 1 is therefore patentably distinct from either reference, even in combination.

Accordingly, reconsideration of the rejections/objections of claims 1 - 21 and allowance thereof is respectfully solicited.

Respectfully submitted,



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Enc. Version *WITH* Markings to Show Changes Made in Claims
Version *WITHOUT* Markings to Show Clean, Changed Claims
Proposed Drawing Correction

In re Application of)
ARNOLD E. GOLDMAN, K. JUERGEN FLAMM,)
JOHN G. MARK & IKE SONG)
Serial No. 09/917,578) Art Unit 2873
Filed: 28 July 2001)
For: SLEEVE FOR PIG-TAILING OPTICAL FIBER) Examiner Omar Z. Hindi

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VERSION WITH MARKINGS TO SHOW CHANGES MADE - CLAIMS 2 - 3

(Per Response to Office Action dated 28 February 2002)

1. A vehicle for enabling attachment of an optic fiber to a multi-integrated optic chip in optical communication therewith, and for maintaining alignment of the fiber at its end adjacent the chip, comprising:

a sleeve having a symmetrically-shaped cavity bounded by termini which respectively interface with the chip and the fiber; and

an adhesive disposed within the cavity and symmetrically bonding the fiber to the chip.

2. (Amended) A vehicle [according to claim 1 wherein:] for enabling attachment of an optic fiber to a multi-integrated optic chip in optical communication therewith, and for maintaining alignment of the fiber at its end adjacent the chip, comprising:

a sleeve which has a symmetrically-shaped cavity bounded by termini that respectively interface with the chip and the fiber, and in which

said cavity has an axis and is internally bounded by a wall which is substantially centered on the axis and which extends from said chip-interfacing terminus to said fiber-interfacing terminus[;],

said termini are centered on the axis[;], and

a line, lying within any plane intersecting the axis at right angles thereto and terminating in said cavity wall, is bisected into two equal segments; and

an adhesive disposed within the cavity and symmetrically bonding the fiber to the chip.

3. (Amended) A vehicle [according to claim 1 wherein said] for enabling attachment of an optic fiber to a multi-integrated optic chip in optical communication therewith, and for maintaining alignment of the fiber at its end adjacent the chip, comprising:

a sleeve which has a symmetrically-shaped cavity bounded by termini that respectively interface with the chip and the fiber, and which is configured to fit onto the chip and is disposed to accept the fiber; and

an adhesive disposed within the cavity and symmetrically bonding the fiber to the chip.

4. A vehicle according to claim 3 wherein:

said cavity has an axis and is internally bounded by a wall which is substantially centered on the axis and which extends from said chip-fitting terminus to said fiber-accepting terminus;

said termini are centered on the axis; and

a line lying within any plane intersecting the axis at right angles thereto and terminating in said cavity wall is bisected into two equal segments.

5. A vehicle according to claim 4 wherein said cavity wall slopes from said chip-fitting terminus to said fiber-accepting terminus.

6. A vehicle according to claim 4 in which said sleeve so controls said adhesive as to provide and preserve a symmetrical bonding of the fiber with respect to the chip over gravitational and wicking effects.

7. A vehicle according to claim 6 in which said cavity wall is shaped as a truncated right circular cone.

8. A vehicle according to claim 6 in which said cavity wall is shaped as a truncated pyramid.

9. A vehicle according to claim 4 in which said sleeve is temporarily attached to said adhesive and the chip.

10. A vehicle according to claim 4 in which said sleeve is permanently attached to said adhesive and the chip.

11. A method for attaching an optic fiber to an optic chip and for maintaining alignment of the fiber at its end adjacent the chip, comprising the steps of:

positioning a sleeve having a symmetrically shaped cavity on the chip;

placing an adhesive into the sleeve cavity;

inserting the fiber into the cavity;

securing the fiber to the chip; and

curing the adhesive.

12. A method according to claim 11 further comprising the step of aligning the fiber within the cavity and positioning the fiber end adjacent the chip.

13. A method according to claim 11 further comprising the step of removing the sleeve from the chip after the adhesive has cured.

14. A method according to claim 11 further comprising the step of leaving the sleeve securely on the chip after the adhesive has cured.

15. A method according to claim 11 further comprising the step of providing the sleeve cavity with a truncated pyramid configuration.

16. A method according to claim 11 further comprising the step of providing the sleeve cavity with a truncated right circular cone configuration.

17. A method for attaching an optic fiber to an optic chip and for maintaining alignment of the fiber at its end adjacent the chip, comprising the steps of:

utilizing a sleeve having a symmetrically shaped cavity;

placing an adhesive into the sleeve cavity;

positioning the sleeve onto the chip;

inserting the fiber into the cavity;

aligning the fiber within the cavity and positioning the fiber end adjacent the chip;

securing the fiber to the chip; and

curing the adhesive.

18. A method according to claim 17 further comprising the step of removing the sleeve from the chip after the adhesive has cured.

19. A method according to claim 17 further comprising the step of leaving the sleeve securely on the chip after the adhesive has cured.

20. A method according to claim 17 further comprising the step of providing the sleeve cavity with a truncated pyramid configuration.

21. A method according to claim 17 further comprising the step of providing the sleeve cavity with a truncated right circular cone configuration.